

Ad 5 (Claim objections)

Correction done, see amended text.

Ad 6 (Claim rejections- 35 USC § 112)

The claims have been amended to point out and distinctly claim the subject matter which I regard as my invention, see amended text.

Ad 7

The claims have been amended according to the suggestions given in this office action.

Ad 8

The specification is indeed a revised translation from the German application. It had been checked for mistakes by a native white Australian physicist prior to submission. The almost identical specification had been submitted in this English version to the EPO and was accepted by EPO as submitted, see EP1213043B1, publication of the mention of the grant 07/09/2003, Bulletin 2003/28.

However, the specification including the claims have currently been amended extensively in order to take care of and respond to the concerns expressed by this Office action, resulting in a substitute specification. Both, a marked up version and a clean version are attached to this reply.

Ad 9 (Claim rejections – 35 USC § 103)

noted

Ad 10**Claim 1.**

Halvorsen US-4,659,095 is identical with Halvorsen WO85/03644A1. The German examiner required me to discuss Halvorsen WO85/03644A1, which she regarded to be the state of the art. I have discussed Halvorsen briefly, see my previous specification, page 2, 3rd paragraph. This discussion is also included in the application submitted to EPO and to USPTO. Both the German patent office DPMA and the EPO decided to grant the patent, taking the existing knowledge including Halvorsen into account. DPMA and EPO judged my invention as being patentable.

This office action requires me now to discuss Halvorsen in detail:

Halvorsen promised to provide a usable roller skate steered by sideways pivoting, where the wheels pivot with the skate. The principle he teaches includes two bogies vertically pivotably attached to the sole portion. One bogie is actively controlled using gear wheels, the other bogie uses a cam guide. The system using gear wheels is poorly working because of several reasons: The strength of the steering effect depends on the quotient of the radii of the two gear wheels. This relation should be about 0.1 in order to have a comfortable smooth steering effect and not like approximately 1.0 which causes an excessive steering effect, as indicated. But this means that the radius of the gear wheel attached to the sole portion must be in the range of 1/8 to 1/4 inch. This is much smaller than shown. Or the gear wheel 35 which is part of the upper rear pivot arm must have a very large radius. But then the skate is much too high to be usable. Halvorsen's description neglects these constraints. Fig. 3 fails to show that the upper boot must be seen from a perspective view, which follows from the steering effect. The gear wheel 35 in Fig. 3 shows 7 teeth whereas the same gear wheel in Fig. 1 shows only 6 teeth. There is no figure which shows, and it is not described, how the stem member is attached to the bogie. This is a severe design problem, but Halvorsen fails to give adequate information. There are two short link arms which pertain to each bogie. If there is no element which fixes the one short link arm 33a to the other short link arm 33b, then both are allowed to distort one against the other. This makes the system very unstable. But no such element is described. Regarding the cam guide system, Halvorsen failed to teach exactly how it works and how it looks like. I was unable to understand what he had in

mind. However, his system using one fixed bogie and one steering bogie may be working once at least the problems of the excess steering effect and that of the poor stability are resolved. If an ordinarily skilled engineer would use the art of Halvorsen to design a useful skate he probably will look for the solution of these problems in the first place. Over Raitz in view of Haldorsen he would have to adopt the following manner in which the skate has to be designed:

- neglect the necessity for bogies at all,
- neglect the necessity for vertical pivot axes.
- As the bogies are removed, the control means which are taught can no longer be applied. Therefore he would have to invent other control means.
- When the „combination of the plate B with its shoulder C“ (Raitz) has to be applied, he must find a way which allows to tilt the wheels sideways.
- If the parallelogram has to be used, he has to find a way to apply the shoulder C to the parallelogram and make it work.
- He has to make the standard D look like a parallelogram.

This program of work is much more than a modification. It would certainly require inventiveness rather than ordinary skills.

Even though this program of work defines one possible but very complicated manner my invention can be made, the subject matter of my invention is not obvious.

The attempt of this office action to suggest the combination „over Raitz in view of Halvorsen“, as detailed in paragraph 9, is mistaken, as pointed out in the following:

This office action mentions elements which belong to the state of the art, including Halvorsen, like the wheel pair (29a, 30a), wheel holder (29, 30), interconnecting cross-guides (=pivot arms 32b, 34b) and the four pivot links forming a parallelogram link chain. This is correct, but Halvorsen additionally describes separate short link arms 32a, 33a, 34a, 32b, 33b, 34b (see column 3, line 10, Fig. 2, Fig. 3), which interconnect the pivot arms (=cross-guides). My invention explains a completely different approach so that the two cross-guides are swively (or say „rotatably“) attached to extensions of the platform wherein the swivel axes (or say „rotation axes“) are at an angle to the pivot axes of the parallelogram (or trapezium) link chain.

This office action suggests that „the two cross-guides linked in a swiveling manner with an extension (16) of a platform (15)“ is already obvious from Halvorsen. This is misleading as actually the two crossguides (pivot arms) are linked to separate short link arms which are in an undisclosed way part of the bogie which is vertically rotatably affixed using a stem member 16 to a rotary plate on which the rigid sole portion rests. This office action is neglecting the many movable parts which Halvorsen has put in between the cross-guides and the sole portion and which are not needed by my invention. Halvorsen teaches a „substantially vertical axis 17a“ (see column 2, line 38), or „each bogie being pivotably mounted about a vertical axis...“ (see his claim 1). My invention does not comprise a bogie. Therefore the vertical axis which the bogie was taught to be pivotally mounted about does not at all correspond to the inclined rotation axes of the cross-guides my invention is proposing. Instead, the rotation axes 9a, 9b from my invention correspond to Halvorsen's axes defined by the two couples of first and second upper (resp. lower) horizontal pivot pins 19a, 19b (21a, 21b), see Fig. 1 and Fig. 3. These axes do not correspond to the vertical axes 17a or 18a. These sets of axes function differently; i.e. they do not have the same function as this office action seems to suggest.

This office action suggests that „It would have been obvious ... to modify the skate of Raitz with the roller skate having a separate wheel holder and cross-guides as taught by Halvorsen in order to allow each wheel pair pivot individually relative to the plane of the platform“. The basic problem of this attempt is to modify the standard D (Raitz) to become a parallelogram

link chain like the one described by Halvorsen. But the standard D simply consists of one single part, whilst the link chain of Halvorsen consists of two wheel holders, four pivot arms, two short link arms and a multitude of pins, not mentioning the additional parts of the rotatable bogie and its fixation. Both, Halvorsen and Raitz provide steering capability. The two steering principles are not compatible one with the other. The engineer has to decide, which one he wants to give up. Probably he decides to abandon Halvorsen's bogie principle including the active control parts. The problem now is to redesign completely Halvorsen's skate to make it compatible with the design disclosed by Raitz. There are millions of possibilities. Only if one knows my invention one could possibly reconstruct the chain of ideas which guides to it. However, my invention does not resemble in any respect either to Raitz or to Halvorsen. If I had taken these two publications as a starting point, I would never have made my invention because both publications seem to me very special and very remote.

If one looks for parents of my invention one would better mention a) the well-known design of the truck, which is used in to-day skateboards and roller-skates and b) the simple parallelogram link chain, as disclosed in e.g. Pohl DE19902112A1, Leszczynski WO97/18017, or Toulemonde FR2784302-A1. One straight forward idea to generate a combination of both principles would be to take the parallelogram and fix it to the base plate at an acute angle with respect to the horizontal plane. Although this embodiment may be considered an obvious one in view of the above, lacking patentability, it had actually been patented, see Brooks US5330214. Brooks claims that this embodiment has the ability to steer. After having made my invention I have tested Brooks's design and I found that it did not steer. The point is, that the parallelogram will steer, once it is designed in the way my invention describes it. But again, my invention is not obvious.

The truck and the simple parallelogram are broadly known to anybody who is interested in this matter. There is no need for any in-depth patent research to gather this information. However, nobody else has published or realized my invention.

Raitz is known for 132 years, Halvorsen is known for 16 years, but no design according to my invention has been realized by any ordinarily skilled person during this long interval, although a simple steering mechanism for skates comprising tiltable wheels has long been looked for because of its huge market potential (actually I am negotiating with major brands to commercialize my system). Even the Brooks system has not been improved so that it can be commercialized. The Raitz system is not commercially available, however it has obviously been replaced by the successful truck design. The Halvorsen system has not become a known commercial product.

Because of all of the above rationale, my invention is not to be rejected under 35 U.S.C. 103(a).

Claim 2

Halvorsen does not disclose wheel „axles attached only to one side of the respective wheel holder“. In Fig. 1 the left wheel holder shows an axle fixation at both sides of the wheel holder; the right wheel holder is partially obscured by other parts.

Claims 3-4 noted

Claims 7-8

As stated above, my swivel (rotation) axis 9a corresponds to Halvorsen's axis defined by the first and second upper horizontal pivot pins 19a and 19b, see Figs. 1 and 4. Being horizontal, this axis does not intersect with the horizontal middle parallel line between the two pivot axes defined by the horizontal pivot pins 24a, 24b and by the horizontal pivot pins 27a and 27 b, see Figs. 3 and 4.